

NANOPHASE TECHNOLOGIES CORPORATION

Form S-3

November 25, 2009

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As filed with the Securities and Exchange Commission on November 25, 2009

Registration No. 333-

# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

## FORM S-3

## REGISTRATION STATEMENT

*UNDER*

*THE SECURITIES ACT OF 1933*

# NANOPHASE TECHNOLOGIES CORPORATION

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction

of incorporation or organization)

**36-3687863**

(I.R.S. Employer Identification No.)

**NANOPHASE TECHNOLOGIES CORPORATION**

**1319 Marquette Drive**

**Romeoville, Illinois 60446**

**(630) 771-6708**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**JESS JANKOWSKI, CHIEF EXECUTIVE OFFICER**

**NANOPHASE TECHNOLOGIES CORPORATION**

**1319 Marquette Drive**

**Romeoville, Illinois 60446**

**(630) 771-6700**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

**COPIES TO:**

**JOHN L. EISEL, ESQ.**

**Wildman, Harrold, Allen & Dixon LLP**

**225 West Wacker Drive**

**Chicago, Illinois 60606-1229**

**(312) 201-2000**

**(312) 201-2555 (fax)**

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this Registration Statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box.

## Edgar Filing: NANOPHASE TECHNOLOGIES CORPORATION - Form S-3

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. "

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. "

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If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box: "

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box: "

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer "
                    
  Accelerated filer "
                    
  Non-accelerated filer "
                    
  Smaller reporting company 
  
 (Do not check if a smaller reporting company)

**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Amount to be Registered	Proposed Maximum		Amount of Registration Fee (2)
		Offering Price per Unit (1)	Proposed Maximum Aggregate Offering Price	
Common Stock, par value \$0.01 per share	847,918	\$0.93	\$788,563.74	\$44.00
Total:	847,918		\$788,563.74	\$44.00

- (1) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rule 457(o) of the Securities Act of 1933, as amended. The proposed maximum aggregate offering price is based upon the average of the high and low asked prices of the Registrant's common stock on November 23, 2009 as reported on the Nasdaq Global Market.
- (2) Calculated pursuant to Rule 457(o) of the rules and regulations under the Securities Act of 1933, as amended.

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8(a) OF THE SECURITIES ACT OF 1933 OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE SECURITIES AND EXCHANGE COMMISSION, ACTING PURSUANT TO SAID SECTION 8(a), MAY DETERMINE.

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THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. THE SELLING STOCKHOLDER NAMED IN THIS PROSPECTUS MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THE PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

**Subject to Completion, dated November 25, 2009**

**PROSPECTUS**

**NANOPHASE TECHNOLOGIES CORPORATION**

**847,918 SHARES OF COMMON STOCK**

This prospectus relates to resales from time to time of up to 847,918 shares of our common stock. The shares of common stock were issued by Nanophase to Rohm and Haas Electronic Materials CMP Holdings, Inc., a Delaware corporation, to whom we refer in this prospectus as the selling stockholder.

This offering is not being underwritten. We will not receive any proceeds from the sale of these shares. The selling stockholder (which term includes its pledgees, donees, transferees or other successors-in-interest) may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices or at privately negotiated prices.

Our common stock is traded on the Nasdaq Global Market under the symbol NANX. Any common stock sold pursuant to this prospectus will be eligible for trading on such securities market. On November 23, 2009, the closing price of the common stock, as reported on the Nasdaq Global Market, was \$0.93 per share.

INVESTING IN OUR SECURITIES INVOLVES A HIGH DEGREE OF RISK. SEE RISK FACTORS BEGINNING ON PAGE 10 OF THIS PROSPECTUS.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this prospectus is November 25, 2009.

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**ABOUT THIS PROSPECTUS**

We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus. You should rely only on the information contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. This prospectus does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities described in this prospectus, nor does this prospectus constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus is correct on any date after its filing dates, even though this prospectus is delivered or securities are sold on a later date.

As used in this prospectus, Nanophase, Company, we, our and us refer to Nanophase Technologies Corporation, except where the context otherwise requires or as otherwise indicated.

**WHERE YOU CAN FIND MORE INFORMATION ABOUT US**

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any reports, proxy statements or other materials and information we file with the SEC at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Copies of such materials also can be obtained at the SEC's website, [www.sec.gov](http://www.sec.gov), free of charge, or by mail from the Public Reference Room of the SEC, at prescribed rates. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the Public Reference Room.

The SEC allows us to incorporate by reference the information we file with them, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below (and any amendments thereto) and any future filings made with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until the offering under this registration statement is completed or withdrawn:

Annual Report as amended on Form 10-K/A for the fiscal year ended December 31, 2008 originally filed on March 25, 2009, then amended on March 27, 2009, September 16, 2009 and October 15, 2009;

Quarterly Reports on Form 10-Q for the quarter ended September 30, 2009 filed November 9, 2009, on Form 10-Q for the quarter ended June 30, 2009 filed August 12, 2009, and on Form 10-Q/A for the quarter ended March 31, 2009 originally filed on May 11, 2009, then amended on September 16, 2009 and October 15, 2009;

Current Reports on Form 8-K filed February 3, 2009; February 5, 2009; March 3, 2009; March 26, 2009; April 7, 2009; April 9, 2009; May 8, 2009; June 26, 2009; August 4, 2009; and October 28, 2009; and

The description of our common stock contained in our registration statement on Form 8-A, including any amendments or reports filed to update such information.

The information incorporated by reference into this prospectus is an important part of this prospectus. Any statement contained in an incorporated document shall be deemed to be modified or superseded for purposes of the registration statement or this prospectus to the extent that a statement contained herein or in any other subsequently filed incorporated documents or in an accompanying prospectus supplement modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as modified or superseded, to constitute a part of this prospectus.

To obtain a copy of these filings at no cost, you may telephone us at 630-771-6708 or write us at Investor Relations Department, Nanophase Technologies Corporation, 1319 Marquette Drive, Romeoville, Illinois 60446. Unless otherwise requested, exhibits to an incorporated document will not be provided unless the exhibit is specifically incorporated by reference into this prospectus.





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In addition, we make available free of charge through our website at <http://www.nanophase.com> our annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. Other than the information expressly incorporated by reference into this prospectus, information on, or accessible through, our website is not a part of this prospectus, any prospectus supplement or the registration statement of which this prospectus is a part.

References in this prospectus and any prospectus supplement to our common stock include the associated preferred stock purchase rights under our 1998 Rights Agreement, as amended.

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### **PROSPECTUS SUMMARY**

The following summary is qualified in its entirety by reference to, and should be read in conjunction with, the more detailed information appearing elsewhere in this prospectus or incorporated by reference herein. Investors should also carefully consider the information set forth under **Risk Factors** beginning on page 10.

#### **The Company**

##### **General**

Nanophase Technologies Corporation ( **Nanophase** or the **Company** , including **we** or **us** ) is a nanomaterials developer and commercial manufacturer and produces engineered nanomaterial products for diverse markets – sunscreens, personal care, architectural coatings, industrial coating ingredients, plastic additives, DNA bio-sensors, semiconductor polishing, optics polishing and other markets. Additionally, new markets and applications are emerging and being developed on a global scale. Nanophase markets its products globally – U.S, Europe and Asia, with a focus on the North American market. The Company was incorporated in Illinois on November 25, 1989, and became a Delaware corporation on November 30, 1997. The Company’s common stock trades on the NASDAQ Global Market under the symbol NANX.

Nanophase has created a leading commercial portfolio of integrated nanomaterials technologies that is designed to deliver an optimal engineered nanomaterial solution for a target market or specific customer application. The Company has complete capability from application development and laboratory samples through pilot production and, finally, commercial production in metric ton(s) capacity. Nanophase has development and application laboratories and manufacturing capacity in two locations in the Chicago area. The Company’s manufacturing is based on Lean Six Sigma discipline and is certified to ISO 9001, American National Standard, Quality Management System Requirements; ISO 14001, American National Standard, Environmental Management System Requirements; and is compliant with cGMP for products under FDA regulation.

Most of the raw materials used in the Company’s various processes are commercially available. In some cases, Nanophase relies on sole-source processors of materials who utilize an array of worldwide sources for the materials that they process to the Company’s specifications.

##### **Nanomaterials**

Nanomaterials are generally comprised of particles (nanoparticles) that are less than 100 nanometers in diameter, which have a wide range of unique properties owing to their very small size. A nanometer is one-billionth of a meter, or about 100,000 times smaller in size than the width of a human hair. To give another perspective, a six-foot tall person is around two-billion nanometers in height.

Nanotechnology involves manipulating the properties of materials, made up of basic elements or combinations thereof, at the 100-nanometer level or below. At this scale, the relatively small number of constituent atoms, the large proportion of these atoms on surfaces, and their confined dimensions lead materials to exhibit unique properties that can be used in many applications.

Nanomaterials are an important and enabling part of the diverse field of nanotechnology. The properties of nanomaterials, and hence their ultimate application performance and value, depend on the composition, size, shape, structure and surface chemistry of their constituent nanoparticles, as well as the production process and parameters. The Company’s technologies for engineering and manufacturing nanomaterials control these critical parameters resulting in nanomaterials that Nanophase believes demonstrably offer superior performance in many applications.

Nanomaterials have applications in diverse global markets where they are incorporated into a process, such as semiconductor polishing, or a product, such as an industrial coating to prevent degradation from ultra-violet radiation ( **UV** ) or significantly improve wear resistance. Multiple markets exist for Nanophase’s products since nanomaterials offer advantages in many applications, such as improved performance, longer wear or product life, lower overall product cost, or in the development of new products or processes.

##### **The Company’s Technologies**

Nanophase has created an integrated platform of commercial nanomaterial technologies that are patented, patent-pending, or proprietary and designed to deliver a nanomaterial solution for a targeted market or a specific customer application. The Company’s platform provides flexibility and capability to engineer nanomaterials that meet a customer’s performance



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requirements and deliver its nanomaterial solutions in a readily usable format. Nanophase's technologies have been demonstrably scalable and robust, having produced over 500 metric tons annually.

The Company's nanomaterials platform begins with two distinct manufacturing processes (PVS and NanoArc® Synthesis) to make nanomaterials or nanoparticles. These technologies allow Nanophase to control critical nanomaterial properties (composition, size, shape, structure, surface chemistry) and engineer those to meet specific application performance. Compared to other major known global nanoparticle processes, the Company's plasma-produced particles are produced as nonporous, dense, discrete single crystals, which the Company believes have a unique set of bulk and surface properties.

Nanophase has developed patented and proprietary technology to coat or surface treat nanoparticles to further engineer surface chemistry by two main processes. For performance in many applications, such as sunscreens, this technology is vital to ensure formulation compatibility and, in some cases, optimal application performance. As an example, Nanophase sells coated nanomaterials that are used by major global consumer products companies for sunscreens and personal care products.

Nanophase also has developed proprietary technology to disperse nanoparticles in both aqueous and several organic solvent systems. These dispersions are highly stable at high weight loading, attributes which provide market advantages. Dispersed nanomaterials are desired by many customers for use in their processes or products due to the ease of handling. As examples, dispersed nanomaterials are used in architectural coatings, industrial coatings, plastic additives and semiconductor polishing.

As markets continue to develop and grow, the Company believes that customers' preferred delivery formats will likely be coated and/or dispersed nanomaterials. Nanophase believes it is well positioned with its platform of integrated commercial nanomaterial technologies. The Company plans to maintain and evolve its intellectual property and technologies to remain at the forefront of nanomaterials development.

Nanophase has steadily expanded both its proprietary technologies in the U.S. and internationally, and its ability to commercially utilize these technologies. Through large-scale manufacturing of nanomaterials utilized in the manufacture of consumer sunscreen and personal care products, and architectural coatings, the Company has developed production expertise that has allowed it to improve processes relating to those nanomaterials, as well as processes relating to other nanomaterials. This experience has translated into certain additional patents, pending patents and improvement of the Company's technologies and manufacturing processes to reduce variable manufacturing cost and improve gross margins.

## **Marketing**

Nanophase sells its products to markets using a dual strategy of customer direct sales in focused industry segments along with sales to, and through, market partners. Markets are selected based on the Company's assessment of the amount of market-pull and the product value proposition for its nanomaterial products, and to avoid situations that are more reflective of a technology-push with an accompanying lower probability of market success.

Customer Direct sales are sales to end customers for the purpose of incorporation into their end products. Examples include manufacturers of paint and stains, among several other end customers. While time to market is generally long in the industry, customer direct entities typically offer faster time to market for relatively smaller sales quantities than market partners. There are far more potential customers in the Customer Direct approach than in the Partner approach. Nanophase attempts to gain benefits by focusing deeply within a few market segments, as opposed to supplying solutions to a smaller number of customers across many segments.

Nanophase's *market partners* currently include BASF Corporation (BASF), a large global chemical company; Rohm & Haas Electronic Materials CMP Technologies, part of a large global chemical company; Altana Chemie, a large chemical company who is a leader in coating and plastic additives; and Alfa Aesar, a division of Johnson Matthey. Each *market partner* is viewed as a leader in its respective markets with recognized brands, significant revenues and global sales reach. Nanophase has long-term relationships with each of its *market partners*. *Market partners* incorporate the Company's nanomaterial products into their own products and/or sell Nanophase's nanomaterial products into specific markets.

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*Market partners* offer Nanophase several advantages. Nanophase is able to leverage its sales and distribution capabilities by using those of its *market partners* to sell its products globally and reach markets that would be difficult or unattainable for the Company alone. The Company is also able to leverage its new nanomaterial product development capabilities by collaborating with *market partners* application development scientists and engineers. Nanophase has current products with each *market partner*, in some cases multiple products, and has focused new nanomaterial product development based on the *market partners* knowledge and expertise in each market and product application. Nanophase anticipates that revenue generation from current products will grow while new revenue streams will be generated through focused new product development and market introduction through its *market partners*.

BASF markets and distributes Nanophase's nanomaterials for sunscreens (beach wear and daily wear products) and personal care under the Z-Cote brand to consumer products companies globally. During 2005, BASF and Nanophase launched a second line of sunscreen and personal care nanomaterials under the Z-Cote MAX brand specifically targeted for European and Asian markets. During 2006, BASF and Nanophase launched a new product, T-Lite MAX, for the sunscreen market.

Rohm & Haas Electronic Materials CMP Inc. ( RHEM ) uses the Company's nanomaterial products to manufacture slurry to polish semiconductors for the STI, SON, and ILDO technology nodes. RHEM's slurry products are marketed and used globally by semiconductor manufacturers. RHEM awarded Nanophase its Excellence in Partnership award in 2005 and during 2006 made a \$5 million equity investment in the Company. This registration statement pertains to that investment.

Altana Chemie, and its subsidiary BYK-Chemie, use Nanophase's nanomaterial products as ingredients and additives for paints, coatings, polymers, plastics, inks and sealants under its NanoBYK brand. Altana Chemie made a \$10 million equity investment in Nanophase during 2004. Altana Chemie also lent Nanophase \$1.6 million to purchase and install nanomaterials production equipment during 2006 to support capacity requirements related to volume growth. This loan was repaid during 2009.

Alfa Aesar is a global distributor of Nanophase-branded nanomaterials and nanomaterial dispersions to the research and development community. Through catalogs, websites, and a dedicated nanomaterials brochure, Alfa Aesar markets several Nanophase nanomaterial products to the global development community. Nanophase anticipates that as new products or processes are developed using the Company's nanomaterial products, increasing demand may have a positive impact on revenue growth.

Nanophase also utilizes market-focused business development and sales to drive new product applications and customers. Business development includes evaluation and qualification of potential markets, identification of potential lead customers, and developing a strategy for successful market penetration.

Nanophase collaborates with potential customers to develop a nanomaterials solution for their specific application. This approach increases the probability of application success, allows the Company to use its integrated platform of nanomaterial technologies to optimize a nanomaterial solution for the product application, and reduces the time-to-market. Nanophase's application scientists work along with the business development and sales team and the customer's new product developers to develop a nanomaterial solution to meet performance demands.

In addition to the applications with market partners, Nanophase's end-use manufacturing customers are using its nanomaterial products for DNA Bio-Sensors, textile coatings, architectural coatings, optics polishing, LCD screen polishing and other applications.

## **Technology and Engineering**

Consisting of research and development, process engineering and advanced engineering groups, the Company's focus is in three major areas: 1) application development for its nanomaterial products; 2) creating or obtaining additional core nanomaterial technologies, or nanomaterials, that have the capability to serve multiple markets; 3) continuing to improve the Company's core technologies to improve operations and reduce costs.

Most of the research and development at Nanophase is directly related to product development for applications. The Company endeavors to either meet specific customer needs or to develop applications solutions to unmet needs in a particular market where its materials may offer a distinct performance advantage. The Company believes that pursuing applications,

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inventions and patents generally will help Nanophase maintain its position as a technical and commercial innovator in nanomaterials.

Nanophase's total research and development expense, which includes all expenses relating to the technology and advanced engineering groups, during the years ended December 31, 2008, 2007, and 2006 was \$1.8 million, \$1.8 million, and \$2.1 million, respectively. This represents the Company's share of these expenses only and does not take into account amounts spent by our largest customers in support of our partnerships. The Company's future success will depend in large part upon its ability to keep pace with evolving advanced materials technologies and industry standards. Through the five-year period ended December 31, 2008, the Company has had cumulative research and development expenses of approximately \$7.8 million and cumulative expenditures on equipment and leasehold improvements of approximately \$4.1 million. These investments in technology and production capacity and capability have helped to take Nanophase from a development stage company to full commercialization.

## **Manufacturing Operations**

The Company has manufacturing capacity based in two locations in the Chicago area. At each of these facilities, Nanophase is able to develop and supply nanomaterials in quantities ranging from grams to metric tons. Nanophase's facilities are certified to ISO 9001:2000 international standards and are current Good Manufacturing Practices (cGMP) compliant for applicable bulk pharmaceutical manufacturing. The Company's facilities are also certified to the international standard for environmental management, ISO 14001:2004.

Lean Six-Sigma discipline is part of all of our manufacturing processes and supports the capability to manufacture precisely to application requirements. Unlike traditional quality control systems, Lean Six Sigma provides methods to re-engineer processes to eliminate non-value added steps and create a system that minimizes errors and defects. Nanophase requires that its manufacturing supervisors, engineers and technicians are trained and become, at minimum, certified Green Belts.

Nanophase's operations employ a cellular, team-based manufacturing approach, where workers operate in work cells, under a Lean Manufacturing environment to continuously advance and improve production capabilities. The Company's manufacturing approach and targeted engineering actions have resulted in continuing process innovations and improvements that have reduced the variable manufacturing cost significantly over the past four years. Using Lean Six Sigma discipline, Nanophase has been able to achieve very high, and consistent, customer service levels with no significant customer returns over the last five years.

Management is committed to a Lean Manufacturing approach, to the extent possible given a certain measure of irregular demand, where the Company is able to reduce excess labor and manage the lowest practical inventory and supply levels in order to minimize working capital demands. This approach complements two of the Company's major operational goals which are to increase nanomaterials output without adding to existing equipment and to continually reduce production costs.

## **Intellectual Property and Proprietary Rights**

Nanophase relies primarily on a combination of patent, trademark, copyright, trade secret and other intellectual property law, nondisclosure agreements and other protective measures to protect its intellectual property. In addition to obtaining patent and trademarks based on the Company's inventions and products, Nanophase also licenses certain third-party patents from time-to-time to expand its technology base.

As of the date of this prospectus, Nanophase owns or licenses 18 US patents and patent applications consisting of 11 issued or allowed US patents, 6 pending US patent applications, and 1 licensed US patent. Correspondingly, the Company owns 46 foreign patents and patent applications consisting of 28 issued or allowed foreign patents and 18 pending foreign patents applications. All of the pending and owned foreign patents are counterparts to domestic filings covering its platform of nanotechnologies. The Company's oldest issued patents will begin to expire in 2013.

Nanophase has licensed its PVS technology for certain specific markets and certain geographies to C.I.K. NanoTek, a division of Itochu Corporation (CIK). Under this agreement, the Company earns royalties on net sales of manufactured products containing nanocrystalline materials. The agreement provides for minimum royalty payments to maintain exclusivity. The agreement expires on March 31, 2013 unless earlier terminated as provided therein. Upon the expiration, the license will become non-exclusive.

See **Risk Factors** for a discussion of risks related to our intellectual property and proprietary rights.



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### **Competition**

Within each of its targeted markets and product applications, Nanophase faces potential competition from advanced materials and chemical companies and suppliers of traditional materials. In many markets, the Company's potential competitors are larger and more diversified than the Company; although management believes its materials and related technologies are superior to those of its competitors in terms of Nanophase's ability to produce highly engineered products to meet specific performance requirements.

With respect to traditional suppliers, the Company may compete against lower priced traditional materials for certain customer applications. In some product or process applications the benefits of using nanomaterials do not always outweigh their typically higher costs.

With respect to larger producers of nanomaterials, while the Company believes many of these producers do not currently offer directly competitive products, these companies have greater financial and technical resources, larger research and development staffs and greater manufacturing and marketing capabilities and could begin to compete directly against Nanophase. In addition, the number of development-stage companies involved in nanocrystalline materials has grown on a global basis, posing increasing competitive risks. Many of these companies are associated with university or national laboratories and use chemical and physical methods to produce nanocrystalline materials. Management believes that most of these companies are engaged primarily in funded research and that very few of them currently have commercial production capabilities; however, they may represent competitive risks in the future. Some development stage companies, especially in other countries, receive significant government assistance. Management anticipates that foreign competition may play a greater role in the nanomaterials arena in the future.

Nanophase believes that its nanomaterial technology and manufacturing platforms are currently at the forefront of nanomaterials production. Relative to potential competition, Nanophase believes it is well positioned with its portfolio of integrated commercial nanomaterial technologies and its current plans for continual technology improvement and evolution.

### **Governmental Regulations**

The manufacture and use of certain of the products that contain the Company's nanocrystalline materials are subject to governmental regulations. As a result, the Company is required to adhere to the current Good Manufacturing Practices (cGMP) requirements of the U.S. Food and Drug Administration (FDA) and similar regulations that include testing, control and documentation requirements enforced by periodic inspections.

Nanophase is committed to environmental health and safety (EH&S). We comply with all permissible exposure limits standards issued by OSHA. Because nanotechnology remains an emerging and evolving science, there are no currently accepted standards, measurements or personal protective equipment available that are specific to nanoparticle safety. Accordingly, Nanophase relies on nuisance dust standards and general chemical safety practices to identify safe personal protective equipment and appropriate handling protocols. The Company believes that it has taken a leadership position on EH&S in its operations and fugitive emissions, and has internal and external review and monitoring of its practices.

In addition, the Company's facilities and all of its operations are subject to the plant and laboratory safety requirements of various environmental and occupational safety and health laws. We believe we are in compliance with all such laws and regulations and that, to date, those regulations have not materially restricted or impeded operations.

Nanophase has taken a responsible, proactive approach to Environmental Health and Safety by implementing appropriate procedures and processes to have its facilities certified to ISO 14001, American National Standard, Environmental Management System Requirements. The Company is also involved with leading industry groups that are defining nanomaterial standards and protocols. These currently include the ASTM International Committee on Nanotechnology, the National Pollution Prevention and Toxics Advisory Committee - TSCA Voluntary Program, the American National Standards Institute (ANSI), and participate in FDA reviews relative to cosmetic applications. The Company has a full-time, advanced degree professional to manage government regulation compliance and EH&S. Management believes that the Company has an exemplary safety record.



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On December 31, 2008, the Company had a total of 54 full-time employees, 9 of whom hold advanced degrees. Nanophase has no collective bargaining agreements or relationships.

During 2008 and early 2009, the Company substantially changed its management team and reduced its headcount to align along a lean operational structure, a process that included the departure of several executives, including the Company's former Chief Executive Officer, and hiring and/or promotion of others. As of the date of this filing the Company has approximately 42 full-time employees.

**Backlog**

Nanophase does not believe that a backlog as of any particular date is indicative of future results. The Company's sales are made primarily pursuant to purchase orders for delivery of nanomaterials. Nanophase has some agreements that give customers the right to purchase a specific quantity of nanomaterials during a specified time period. These agreements, however, do not obligate the customers either to purchase any particular quantity of such nanomaterials at all, or in the case where an obligation exists, the risk to the customer for not purchasing nanomaterials is the loss of exclusivity. The quantities actually purchased by the customer, as well as the shipment schedules, are frequently revised during the agreement term to reflect changes in the customer's needs. The Company does not believe that such agreements are meaningful for determining backlog amounts.

**Key Customers**

A limited number of key customers account for a substantial portion of the Company's commercial revenue. In particular, revenue from three customers; BASF, the Company's customer in architectural coatings and RHEM, constituted approximately 48.4%, 24.3% and 11.6%, respectively, of the Company's 2008 total revenue. The Company's customers are significantly larger than the Company and are able to exert a high degree of influence over the Company. The Company's customer agreements may be terminated by the customer under certain circumstances with reasonable notice and do not provide any guarantees that these customers will continue to buy the Company's products. The loss of one of these key customers or the failure to attract new customers could have a material adverse effect on the Company's business, results of operations and financial condition. See Risk Factors for additional discussion.

**The Offering**

Common Stock, together with associated rights, offered by the selling shareholder	847,918 shares
Use of Proceeds	We will not receive any proceeds from the offering.
Nasdaq Global Market Symbol	NANX

**SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS**

Nanophase wants to provide investors with more meaningful and useful information. As a result, this prospectus contains and incorporates by reference certain forward-looking statements, as defined in Section 21E of the Securities Exchange Act of 1934, as amended. These statements reflect the Company's current expectations of the future results of its operations, performance and achievements. Forward-looking statements are covered under the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. The Company has tried, wherever possible, to identify these statements by using words such as anticipates, believes, estimates, expects, plans, intends and similar expressions. These statements reflect management's current beliefs and are based on information now available to it. Accordingly, these statements are subject to certain risks, uncertainties and contingencies that could cause the Company's actual results, performance or achievements in 2009 and beyond to differ materially from those expressed in, or implied by, such statements. These risks, uncertainties and factors include, without limitation: a decision by a customer to cancel a purchase order or supply agreement in light of the Company's dependence on a limited number of key customers; uncertain demand for, and acceptance of, the Company's nanomaterials; the Company's manufacturing capacity and product mix flexibility in light of customer demand; the Company's limited marketing experience; changes in development and distribution relationships; the impact of competitive products and technologies; the Company's dependence on patents and protection of proprietary information; the resolution of litigation in



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which the Company may become involved; and other risks set forth under the caption "Risk Factors" below. Readers of this prospectus should not place undue reliance on any forward-looking statements. Except as required by federal securities laws, the Company undertakes no obligation to update or revise these forward-looking statements to reflect new events or uncertainties.

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**RISK FACTORS**

This offering involves a high degree of risk. Before making an investment decision, you should carefully consider the following risks and the risks set forth in any prospectus supplement which accompanies this prospectus and in our periodic reports on Form 10-K and Form 10-Q, including any amendments, which have been or will be filed with the SEC and are incorporated by reference into this prospectus. The trading price of our common stock could decline due to any of these risks, and you could lose all or part of your investment. You also should refer to the other information appearing elsewhere in this prospectus, or incorporated by reference into this prospectus.

*We may not be able to address difficulties encountered by companies in new and rapidly evolving markets.*

We were formed in November 1989 and began our commercial nanomaterials operations in January 1997. We have only recently begun to generate a significant amount of revenue from our nanomaterials operations. Because of the early stage of development of our rapidly evolving market, we have limited insight into trends that may emerge and adversely affect our business and cannot be certain that our business strategy will be successful or that it will successfully address these risks. In addition, our efforts to address any of these risks may distract personnel or divert resources from other more important initiatives, such as attracting and retaining customers and responding to competitive market conditions.

*We have a history of losses that may continue in the future.*

We have incurred net losses in each year since our inception with net losses of \$5.2 million in 2006, \$3.7 million in 2007, as adjusted, and \$6.4 million in 2008. As of December 31, 2008, we had an accumulated deficit of approximately \$73.5 million and expect to continue to incur losses on an annual basis through at least the end of 2009. We believe that our business depends, among other things, on our ability to significantly increase revenue. If revenue fails to grow at anticipated rates or if operating expenses increase without a commensurate increase in revenue, or if we fail to adjust operating expense levels accordingly, then the imbalance between revenue and operating expenses will negatively impact our cash balances and our ability to achieve profitability in future periods.

*We depend on a small number of customers for a high percentage of our sales, and the loss of orders from a significant customer could cause a decline in revenue and/or increases in the level of losses incurred.*

Sales to our customers are executed pursuant to purchase orders and long-term supply contracts; however, customers can cease doing business with us at any time with limited advance notice. It is possible that a significant portion of our future sales may remain concentrated within a limited number of strategic customers. We may not be able to retain our strategic customers, such customers may cancel or reschedule orders, or in the event of canceled orders, such orders may not be replaced by other sales or by sales that are on as favorable terms. In addition, sales to any particular customer may fluctuate significantly from quarter to quarter, which could affect our ability to achieve anticipated revenues on a quarterly basis.

Revenue from (i) BASF Corporation, (ii) the Company's significant customer in architectural coatings and (iii) RHEM, accounted for approximately 84% of total revenue for the year ended December 31, 2008, and revenue from the same three customers accounted for similarly disproportionate total revenue in 2007. For the years ended December 31, 2008 and 2007, BASF accounted for 48% and 49% of our total revenue, respectively. We have recently implemented a strategy to become less reliant on a small number of large customers in the future, but the results of that strategy will not be seen immediately, and may not be ultimately successful. During 2009, revenue from these three customers declined significantly, resulting in total company revenue declining significantly from the same period of 2008. If this trend were to continue, or we were to lose, or receive significantly decreased orders in the future from, one or more of these three customers, then our results of operations could be materially harmed. Our agreements with customers may be terminated by the customer under certain circumstances with reasonable notice and do not provide any guarantees that these customers will continue to buy our products. In addition, while our agreements with BASF contain certain order requirements, the only repercussion under the agreements for missing the order requirements is that we would be freed from the exclusivity obligations under the BASF contracts.

We have been consistently expanding both our marketing and business development efforts and our production efficiency in order to address the issues of our dependence upon a limited amount of customers, enhancement of gross profit and operating cash flows, and the achievement of profitability. We currently have customers that may grow to the point where they generate significant revenues and margins as relationships expand. Given the special nature of our products, and the fact that markets for them are not yet fully developed, it is difficult to accurately predict when additional large customers will materialize. Going forward, the Company's



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margins, as a percentage of revenue, will be dependent upon revenue mix, revenue volume, raw materials pricing, and the Company's ability to continue to cut costs. The extent of the growth in revenue volume and the related gross profit that this revenue generates, will be the main drivers in generating positive operating cash flows and, ultimately, net income.

*Any downturn in the markets served by us would harm our business.*

A majority of our products are incorporated into products such as sunscreens, architectural coatings, polishing slurries, personal care, and to a lesser extent, medical diagnostics, abrasion-resistant coatings for flooring, and other products. These markets have from time to time experienced cyclical, depressed business conditions, often in connection with, or in anticipation of a decline in general economic conditions. These industry downturns often result in reduced product demand and declining average selling prices. Our business would be harmed by a continuation of the existing downturn and/or any future downturns in the markets that we serve.

*Our products often have long adoption cycles, which could make it difficult to achieve market acceptance and makes it difficult to forecast revenues.*

Due to their often novel characteristics and the unfamiliarity with them that exists in the marketplace, our nanomaterials may require longer adoption cycles than existing materials technologies, to the point that adoption cycles are typically 1-5 years. Our nanomaterials have to receive appropriate attention within any potential customer's organization, then they must be tested to prove a performance advantage over existing materials, typically on a systems-cost basis. Once we have proven initial commercial viability, pilot scale production runs must be completed by the customer, followed by further testing. Once production-level commercial viability is established, then our nanomaterials can be introduced, often to a downstream marketplace that needs to be familiarized with them. If we are unable to demonstrate to our potential customers the performance advantages and economic value of our nanomaterials over existing and competing materials and technologies, we will be unable to generate significant sales. Our long adoption cycle makes it difficult to predict when sales will occur.

*We frequently depend on collaborative development relationships with our customers and do not have a substantial direct sales force or an established distribution network apart from the distribution networks of our strategic partners. If we are unable to initiate or sustain such collaborative relationships or if the terms of these relationships limit the distribution of our products or if our strategic partners are unable to distribute our products efficiently, then we may be unable to independently develop, manufacture or market our current and future nanomaterials or applications.*

We have established, and will continue to pursue, strategic relationships with many of our customers and do not have a substantial direct sales force or an established distribution network (other than distribution arrangements for research samples). Through these relationships, we seek to develop new applications for our nanomaterials and share development and manufacturing resources. We also seek to coordinate the development, manufacture and marketing of our nanomaterials products. Future success will depend, in part, on our continued relationships with these customers and our ability to enter into similar strategic relationships with other customers. Our customers may not continue in these collaborative development relationships, may not devote sufficient resources to the development or sale of our materials or may enter into strategic development relationships with our competitors. These customers may also require a share of control of these collaborative programs. Some of our agreements with these customers limit our ability to license our technology to others and/or limit our ability to engage in certain product development or marketing activities with others. These relationships generally can be terminated unilaterally by customers.

Additionally, except for our research quantities distribution agreement with Alfa Aesar, these customers generally require exclusive distribution arrangements within the field of application covered by our agreements. The very nature of these strategic relationships limits the distribution of our products to the distribution networks available to and selected by our strategic relationship partners. In addition, the development agreements with some of our larger customers contain provisions that require us to license our intellectual property to these customers on disadvantaged terms and/or sell equipment to these customers in the event that we materially breach these agreements or fail to satisfy certain financial covenants. For example, see [Risk Factors](#) We may need to raise additional capital in the future.

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If we are unable to initiate or sustain such collaborative relationships or if the terms of these relationships materially limit our access to distribution channels for our products, then we may be unable to independently develop, manufacture or market our current and future nanomaterials or applications.

*If commodity metal prices increased at such a rate that we are unable to recover lost margins on a timely basis or that our products became uncompetitive in their current marketplaces, our financial and liquidity position and results of operations would be substantially harmed.*

Many of our significant raw materials come from commodity metal markets that may be subject to rapid price increases. While we generally are able to pass a significant portion of commodity price-related increases on to our customers, it is possible that, given our limited customer base and the limited control we have over it, commodity metal prices could increase at such a rate that could hinder our ability to recover lost margins from our customers. It is also possible that such drastic cost increases could render some of our materials uncompetitive in their current marketplaces when considered relative to other materials on a cost benefit basis. If either of these potential results occurred, our financial and liquidity position and results of operations would be substantially harmed.

*If a catastrophe strikes either of our manufacturing facilities or if we were to lose our lease for either facility due to non-renewal or other unforeseen events, we may be unable to manufacture our materials to meet customers' demands.*

Our manufacturing facilities are located in Romeoville and Burr Ridge, Illinois. These facilities and some of our manufacturing and testing equipment would be difficult to replace in a timely manner. Therefore, any material disruption at one of our facilities due to a natural or man-made disaster or a loss of lease due to non-renewal or other unforeseen events could have a material adverse effect on our ability to manufacture products to meet customers' demands. While we maintain property insurance, this insurance may not adequately compensate us for all losses that we may incur in the event of a material interruption in our business.

*If we are unable to expand our production capabilities to meet unexpected demand, we may be unable to manage our growth and our business would suffer.*

Our success will depend, in part, on our ability to manufacture nanomaterials in significant quantities, with consistent quality and in an efficient and timely manner. We expect to be able to expand our current facilities or obtain additional facilities in the future, and outsource production aspects as necessary, available and appropriate, in order to respond to unexpected demand for existing materials or for new materials that we do not currently make in quantity. Such unplanned demand, if it resulted in rapid expansion, could create a situation where growth could become difficult to manage, which could cause us to lose potential revenue.

*Protection of our intellectual property is limited and uncertain*

Our intellectual property is important to our business. We seek to protect our intellectual property through patent, trademark, trade secret protection and confidentiality or license agreements with our employees, customers, suppliers and others. Our means of protecting our intellectual property rights in the United States or abroad may not be adequate and others, including our competitors, may use our proprietary technology without our consent. We may not receive the necessary patent protection for any applications pending with the U.S. Patent and Trademark Office ( USPTO ) and any of the patents that we currently own or license may not be sufficient to keep competitors from using our materials or processes. In addition, patents that we currently own or license may not be held valid if subsequently challenged by others and others may claim rights in the patents and other proprietary technology that we own or license. Additionally, others may have already developed or may subsequently develop similar products or technologies without violating any of our proprietary rights. If we fail to obtain or maintain patent protection or preserve our trade secrets, we may be unable to effectively compete against others offering similar products and services. In addition, if we fail to operate without infringing the proprietary rights of others or lose any license to technology that we currently have or will acquire in the future, we may be unable to continue making the products that we currently make.

Moreover, at times, attempts may be made to challenge the prior issuance of our patents. Furthermore, litigation may be necessary to enforce our intellectual property rights, to protect our trade secrets, to determine the validity and scope of the proprietary rights of others, or to defend against claims of infringement or invalidity. Such litigation could result in substantial costs and diversion of resources and could harm our business, operating results and financial condition. Such litigation might occur with parties that have

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substantially greater resources, and thus more capability to engage and continue litigation. In addition, if others assert that our technology infringes their intellectual property rights, resolving the dispute could divert our management team and financial resources.

Due to the expanding length of time required in order to obtain a patent, and the inherent ongoing risks of the protections truly provided by any patent, we made a decision during 2008 that we could no longer place a value on these intangible assets. In the future, we may license certain of our intellectual property, such as trademarks, to third parties. While we would attempt to ensure that any licensees maintain the quality and value of our brand, these licenses might diminish this quality and value.

*Our industry is experiencing rapid changes in technology. If we are unable to keep pace with these changes, our business will not grow.*

Rapid changes have occurred, and are likely to continue to occur, in the development of advanced materials and processes. Our success will depend, in large part, upon our ability to keep pace with advanced materials technologies, industry standards and market trends and to develop and introduce new and improved products on a timely basis. We expect to commit substantial resources to develop our technologies and product applications and, in the future, to expand our commercial manufacturing capacity as volume grows. Our development efforts may be rendered obsolete by the research efforts and technological advances of others and other advanced materials may prove more advantageous than those we produce.

*The markets we serve are highly competitive, and if we are unable to compete effectively, then our business will not grow.*

The advanced materials industry is new, rapidly evolving and intensely competitive, and we expect competition to intensify in the future. The market for materials having the characteristics and potential uses of our nanomaterials is the subject of intensive research and development efforts by both governmental entities and private enterprises around the world. We believe that the level of competition will increase further as more product applications with significant commercial potential are developed. The nanomaterials product applications that we are developing will compete directly with products incorporating both conventional and advanced materials and technologies. While we are not currently aware of the existence of commercially available competitive products with the same attributes as those we offer, other companies may develop and introduce new or competitive products. Our competitors may succeed in developing or marketing materials, technologies and better or less expensive products than the ones we offer. In addition, many of our potential competitors have substantially greater financial and technical resources, and greater manufacturing and marketing capabilities than we do. If we fail to improve our current and potential nanomaterials product applications at an acceptable price, or otherwise compete with producers of conventional materials, we will lose market share and revenue to our competitors.

*We may need to raise additional capital in the future. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms or we may be required to sell equipment to our largest customer.*

We expect to expend significant resources on research, development and product testing, and in expanding current capacity or capability for new business. In addition, we may incur significant costs in preparing, filing, prosecuting, maintaining and enforcing our patents and other proprietary rights. If necessary, we may seek funding through public or private financing and through contracts with government or other companies. Additional financing may not be available on acceptable terms or at all. If we are unable to obtain adequate funds, we may be required to delay, scale-back or eliminate some of our manufacturing and marketing operations or we may need to obtain funds through arrangements on less favorable terms. If we obtain funding on unfavorable terms, we may be required to relinquish rights to some of our intellectual property.

To raise additional funds in the future, we would likely sell our equity or debt securities or enter into loan agreements. To the extent that we issue debt securities or enter into loan agreements, we may become subject to financial, operational and other covenants that we must observe. In the event that we were to breach any of these covenants, then the amounts due under such loans or debt securities could become immediately payable by us, which could significantly harm us. To the extent that we sell additional shares of our equity securities, our stockholders may face economic dilution and dilution of their percentage of ownership.



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We currently have a supply agreement with BASF and a technology development agreement with Altana Chemie, that contain provisions which could potentially result in a mandatory license of technology and sale of production equipment to the customer providing capacity sufficient to meet its production needs. Under our supply agreement with BASF, a triggering event also would occur if:

our earnings for a twelve month period ending with our most recently published quarterly financial statements are less than zero and our cash, cash equivalents and certain investments are less than \$2,000,000, or

the acceleration of any debt maturity having a principal amount of more than \$10,000,000, or we become insolvent as defined in the supply agreement.

In the event of a triggering event where we are required to sell to BASF production equipment providing capacity sufficient to meet BASF's production needs, the equipment would be sold at 115% of the equipment's net book value.

If we were determined to have materially breached certain other provisions of our supply agreement with BASF or our technology development agreement with Altana Chemie, we similarly could be subject to a triggering event that potentially could result in a mandatory license of technology and a sale of certain production equipment to the customer.

We believe that the combination of cash balances and other assets that might be monetized if and as needed will be sufficient to avoid the first triggering event under the BASF supply agreement for the foreseeable future, and being debt-free as of the date of this filing the second triggering event is not currently applicable to us. During 2008 we reclassified certain Auction Rate Securities (ARS) as long term in nature. As of the date of this filing our ARS investments totaled \$3.6 million, net of impairment charge. These ARS holdings in the Company's investment portfolio have experienced failed auctions due to a lack of available buyers for them on their expected auction dates. An auction failure means that parties wishing to sell their securities could not be matched with an adequate volume of buyers. In the event there is a failed auction the indenture governing the security requires the issuer to pay interest at a contractually defined rate. Despite these failed auctions, there have been no defaults on the underlying securities and investment income on these ARS holdings. They have been issued through the Federal Family Education Loan Program (FFELPs Loans) and carry an AAA credit rating. These FFELPs Loans are guaranteed to 97% of their \$4 million value by the Department of Education and we are not aware of any defaults or threatened defaults by any of the underlying securities, the risk of which we believe to be very low. However, these failed auctions have caused us to reclassify these assets as long term and reduce their carrying value. During October 2009, we sold certain ARS investments for more than \$1.7 million, which left \$3.6 million in ARS assets, net of reserve. We will continue to monitor the creditworthiness of the issuers and underwriting of these securities and make any adjustments we deem necessary to reflect the fair value of these securities. It is our intention to sell these assets once the market recovers, but may consider selling a portion of this portfolio at a discount in order to maintain compliance with this agreement. Short of selling these securities, we might be able to obtain debt funding if and as needed to stay in compliance with this agreement.

In addition, pursuant to the applicable rules of the Financial Industry Regulatory Authority (FINRA), we recently filed an arbitration demand against Credit Suisse Securities (USA) LLC (Credit Suisse), the Company's investment advisor with respect to our ARS investments. The arbitration demand alleges that Credit Suisse misrepresented to us that ARS were safe, liquid, short-term investments which were equivalent to cash or money market investments. Through the arbitration, we seek recovery of the reduced value of our ARS investments, including the difference between the approximately \$1.7 million proceeds and \$2.0 million par value of the ARS that was sold during October 2009 and described above, and other damages arising from the misrepresentation. The hearing on our arbitration has been scheduled for April 10, 2010. Obtaining relief through the FINRA arbitration could further help us maintain compliance with our agreements with BASF and Altana Chemie.

If a triggering event were to occur and BASF or Altana Chemie elected to proceed with the license and related sale mentioned above, we would lose both significant revenue and the ability to generate significant revenue to replace that which was lost in the near term. Replacement of necessary equipment that would be purchased and removed by the customer pursuant to this triggering event could take six months to a year. Any additional capital outlays required to rebuild capacity would probably be greater than the

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proceeds from the purchase of the assets pursuant to our respective agreements with BASF and Altana Chemie. This potential shortfall might put us in a position where it would be difficult to secure additional funding given what would then be an already tenuous cash position. Such an event would also likely result in the loss of many of our key staff and line employees due to economic realities. We believe that our employees are a critical component of our success and would be difficult to quickly replace and train. Given the occurrence of such an event, we might not be able to hire and retrain skilled employees given the stigma relating to such an event and its impact on us. We might elect to effectively reduce our size and staffing to a point where we could remain a going concern in the near term.

*Future broad illiquidity expansion in the market for financial instruments could make it difficult to access invested funds.*

The Company has made investments in several auction rate securities, representing a significant, although minority portion, of its invested funds. Due to the level of liquidity risk associated with such investments, and the potential level of uncertainty related to changes in the value of such investments if sold under market conditions where supply exceeds demand, it is possible that the Company's ability to access these funds on short notice without incurring trading losses will be affected. As of this filing, the Company holds approximately \$3.6 million in short-term Treasury Bills and approximately \$0.5 million in checking accounts and short term investments, all of which pose minimal liquidity risks. Given that cash used in operations is expected to be under continued pressure due to overall economic conditions, the Company has made significant reductions in its cost structure. It is management's view that this potential liquidity risk does not represent a significant limitation to the Company's ability to continue operations for the foreseeable future.

*We depend on key personnel, and their unplanned departure could harm our business.*

Our success will depend, in large part, upon our ability to attract and retain highly qualified research and development, management, manufacturing, marketing and sales personnel on favorable terms. Due to the specialized nature of our business, we may have difficulty locating, hiring and retaining qualified personnel on favorable terms. If we were to lose the services of any of our key executive officers or other key personnel, or if we are unable to attract and retain other skilled and experienced personnel on acceptable terms in the future, or if we are unable to implement a succession plan to prepare qualified individuals to assume key roles upon any loss of our key personnel, then our business, results of operations and financial condition could be materially harmed. In addition, we do not currently have key-man life insurance policies covering executive officers or key employees, nor do we presently have any plans to purchase such policies.

*We face potential product liability risks which could result in significant costs that exceed our insurance coverage, damage our reputation and harm our business.*

We may be subject to product liability claims in the event that any of our nanomaterials product applications are alleged to be defective or cause harmful effects to humans or physical environments. Because our nanomaterials are used in other companies' products, to the extent our customers become subject to suits relating to their products, such as cosmetic, skin-care, architectural coatings and personal-care products, these claims may also be asserted against us. We may incur significant costs including payment of significant damages, in defending or settling product liability claims. We currently maintain insurance coverage in excess of \$10 million for product liability claims, which may prove not to be sufficient. Even if a suit is without merit and regardless of the outcome, claims can divert management time and attention, injure our reputation and adversely affect demand for our nanomaterials.

*We are subject to governmental regulations. The costs of compliance and liability for noncompliance with governmental regulations could have a material adverse effect on our business, results of operations and financial condition.*

Current and future laws and regulations may require us to make substantial expenditures for preventive or remedial action. Our operations, business or assets may be materially and adversely affected by governmental interpretation and enforcement of current or future environmental, health and safety laws and regulations. In addition, our coating and dispersion operations pose a risk of accidental contamination or injury. The damages in the event of an accident or the costs to prevent or remediate a related event could exceed both the amount of our liability insurance and our resources or otherwise have a material adverse effect on our business, results of operations and financial condition.

In addition, both of our facilities and all of our operations are subject to the plant and laboratory safety requirements of various occupational safety and health laws. We believe we have complied in all material respects with governmental regulations applicable

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to us. However, we may have to incur significant costs in defending or settling future claims of alleged violations of governmental regulations and these regulations may materially restrict or impede our operations in the future. In addition, our efforts to comply with or contest any regulatory actions may distract personnel or divert resources from other important initiatives.

The manufacture and use of certain products that contain our nanomaterials are subject to extensive governmental regulation, including regulations promulgated by the U.S. Food and Drug Administration, the U.S. Environmental Protection Agency and the U.S. Occupational Safety and Health Administration. As a result, we are required to adhere to the requirements of the regulations of governmental authorities in the United States and other countries. These regulations could increase our cost of doing business and may render some potential markets prohibitively expensive.

*We have implemented anti-takeover provisions which could discourage or prevent a takeover, even if an acquisition could be beneficial to our stockholders.*

In October 1998, we entered into a Rights Agreement, commonly referred to as a poison pill. The provisions of this agreement and some of the provisions of our certificate of incorporation, our bylaws and Delaware law could, together or separately:

discourage potential acquisition proposals;

delay or prevent a change in control; and

limit the price that investors might be willing to pay in the future for shares of our common stock.

In particular, our board of directors is authorized to issue up to 24,088 shares of preferred stock (less any outstanding shares of preferred stock) with rights and privileges that might be senior to our common stock, without the consent of the holders of the common stock, including up to 2,500 shares of Series A Junior Participating Preferred Stock issuable under the 1998 Rights Agreement.

In addition, Section 203 of the Delaware General Corporations Law relating to business combinations with related stockholders and the terms of our stock option plans relating to changes of control may discourage, delay or prevent a change in control of our company.

*Future sales of our common stock by existing stockholders could negatively affect the market price of our stock and make it more difficult for us to sell stock in the future.*

Sales of our common stock in the public market, or the perception that such sales could occur, could result in a decline in the market price of our common stock and make it more difficult for us to complete future equity financings. A substantial number of shares of our common stock and shares of common stock subject to options may be resold pursuant to currently effective registration statements.

We cannot estimate the number of shares of common stock that may actually be resold in the public market because this will depend on the market price for our common stock, the individual circumstances of the sellers, and other factors. If stockholders sell large portions of their holdings in a relatively short time, for liquidity or other reasons, the market price of our common stock could decline significantly.

*Bradford T. Whitmore has significant influence on all matters requiring stockholder approval because he beneficially owns a large percentage of our common stock, and he may vote this common stock in ways with which other stockholders disagree.*

As of August 7, 2009, Bradford T. Whitmore, together with his affiliates, Grace Brothers, Ltd. and Grace Investments, Ltd., beneficially owned approximately 24% of the outstanding shares of our common stock. As a result, he has significant influence on matters submitted to our stockholders for approval, including proposals regarding:

any merger, consolidation or sale of all or substantially all of our assets;



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the election of members of our board of directors; and

any amendment to our certificate of incorporation.

The ownership position of Mr. Whitmore could delay, deter or prevent a change of control or adversely affect the price that investors might be willing to pay in the future for shares of our common stock. Mr. Whitmore's interests may significantly differ from the interests of our other stockholders and he may vote the common stock he beneficially owns in ways with which our other stockholders disagree. Investors in the Company should also note that R. Janet Whitmore, one of our directors, is the sister of Mr. Whitmore.

*Our stock price is volatile.*

The stock markets in general, and the stock prices of technology-based companies in particular, have experienced extreme volatility that often has been unrelated to the operating performance of any specific public company. The market price of our common stock has fluctuated in the past and is likely to fluctuate in the future as well. Our future financial performance and stock price may be subject to significant volatility, particularly on a quarterly basis. Shortfalls in our revenues in any given period relative to the levels expected by investors could immediately, significantly and adversely affect the trading price of our common stock.

*We have never paid dividends.*

We currently intend to retain earnings, if any, to support our growth strategy. We do not anticipate paying dividends on our stock in the foreseeable future.

## **USE OF PROCEEDS**

We will not receive any proceeds from the sale of the shares of common stock offered by the selling stockholder pursuant to this prospectus. The selling stockholder will pay any underwriting discounts and commissions and expenses incurred by the selling stockholder for brokerage, accounting or tax services or any other expenses incurred by the selling stockholder in disposing of the shares of common stock, except as described below. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares of common stock covered by this prospectus, including without limitation, all registration and filing fees, NASDAQ listing fees, fees and expenses of our counsel and our accountants.

On August 25, 2006, we completed the sale of 847,918 shares of our common stock in a private placement to the selling stockholder resulting in gross proceeds of \$5,000,000. To date we have used the proceeds of this private placement for operations, including capital equipment, and general working capital purposes.

## **SELLING STOCKHOLDER**

All shares of our common stock covered by this prospectus were issued directly by us to the selling stockholder in a private placement completed on August 25, 2006 pursuant to an exemption from registration contained in Regulation D promulgated under Section 4(2) of the Securities Act. We granted registration rights to the selling stockholder with respect to the resale of shares of our common stock issued to the selling stockholder.

In accordance with the registration rights granted to the selling stockholder, we have filed with the Securities and Exchange Commission a registration statement on Form S-3, of which this prospectus forms a part, with respect to the resale or other disposal of the shares of common stock offered by this prospectus. We have agreed to prepare and file amendments and supplements to the registration statement to the extent necessary to keep the registration statement effective until the shares are no longer required to be registered for resale thereof by the selling stockholders.

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The actual number of shares of common stock covered by this prospectus, and included in the registration statement of which this prospectus is a part, includes additional shares of common stock that may be issued as a result of stock splits, stock dividends, or similar transactions.

The following table sets forth certain information with respect to the beneficial ownership of shares of our common stock by the selling stockholder as of November 25, 2009, the number of shares which may be offered pursuant to this prospectus for the account of the selling stockholder from time to time. Beneficial ownership is determined in accordance with the rules of the Securities and Exchange Commission and includes voting or investment power with respect to shares, as well as any shares as to which the selling stockholder has the right to acquire beneficial interest within 60 days after November 25, 2009, through the exercise or conversion of any stock option, warrant, preferred stock or other right. Except for the joint development agreement described above or as described in the footnotes to the table, to the best of our knowledge, the selling stockholder has not had any position, office or other material relationship with our Company or any of our affiliates.

<b>Selling Stockholder</b>	<b>Number of Shares Beneficially Owned Prior to Offering</b>	<b>Maximum Number of Shares Which May Be Sold in This Offering</b>	<b>Number of Shares Beneficially Owned After the Offering(1)</b>	<b>Percentage of Class Beneficially Owned After the Offering(1)</b>
Rohm and Haas Electronic CMP Holdings, Inc.	847,918	847,918	0	0.0%

- (1) Assumes that the selling stockholder will sell all shares of common stock offered pursuant to this prospectus, but not any other shares of common stock beneficially owned by such stockholder.

**PLAN OF DISTRIBUTION**

The shares covered by this prospectus may be offered and sold from time to time by the selling stockholder. The term selling stockholder includes donees, pledgees, transferees or other successors-in-interest selling shares received after the date of this prospectus from the selling stockholder as a gift, pledge, partnership distribution or other transfer. The selling stockholder will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made directly to purchasers or through underwriters, broker-dealers or agents, who may receive compensation in the form of discounts, concessions or commissions from the selling stockholder. These discounts, concessions or commissions as to any particular underwriter, broker-dealer or agent may be in excess of those customarily received in the types of transactions involved.

Any or all of the shares offered by the selling stockholder may be offered for sale and sold by, or on behalf of, the selling stockholder from time to time in varying amounts, including in block transactions, on the NASDAQ Global Market, or the over-the-counter market, in privately negotiated transactions, or otherwise, at prices prevailing in such market or as may be negotiated at the time of the sale. The shares may be sold by the selling stockholder directly to one or more purchasers, through agents designated from time to time or to or through broker-dealers designated from time to time. In the event the shares are publicly offered through broker-dealers or agents, the selling stockholder may enter into agreements with respect thereto. Such broker-dealers or agents may receive compensation in the form of discounts, concessions or commissions from the selling stockholder, and any such broker-dealers or agents that participate in the distribution of the shares may be deemed to be underwriters within the meaning of the Securities Act, and any profit on the sale of the shares by them and any discounts and commission might be deemed to be underwriting discounts or commissions under the Securities Act. Any such broker-dealers and agents may engage in transactions with, and perform services for, us. At the time a particular offer of shares is made by the selling stockholder, to the extent required, a prospectus supplement will be distributed which will set forth the aggregate number of shares being offered, and the terms of the offering, including the public offering price thereof, the name or names of any broker-dealers or agents, any discounts, commissions and other items constituting compensation from, and the resulting net proceeds to, the selling stockholder.

In order to comply with the securities laws of certain states, sales of shares offered hereby to the public in such states may be made only through broker-dealers who are registered or licensed in such states. Sales of shares offered hereby must also be made by the selling stockholder in compliance with other applicable state securities laws and regulations.

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The selling stockholder and any underwriters, broker-dealers or agents that participate in the sale of the common stock or interests therein may be underwriters within the meaning of Section 2(11) of the Securities Act. If the selling stockholder is an underwriter within the meaning of Section 2(11) of the Securities Act, it will be subject to the prospectus delivery requirements of the Securities Act. The selling stockholder has acknowledged that it understands its obligations to comply with the provisions of the Exchange Act and the rules thereunder relating to stock manipulations, particularly Regulation M.

We will make copies of this prospectus (as it may be supplemented or amended from time to time) available to the selling stockholder for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling stockholder may indemnify any broker-dealer that participates in transactions involving the sale of the shares against certain liabilities, including liabilities arising under the Securities Act.

In addition, any shares covered by this prospectus that qualify for sale pursuant to Rule 144 of the Securities Act may be sold under Rule 144 rather than pursuant to this prospectus.

To the extent required, the shares of our common stock to be sold, the name of the selling stockholder, the respective purchase prices and public offering prices, the names of any agents, dealer or underwriter, any applicable commissions or discounts with respect to a particular offer will be set forth in any accompanying prospectus supplement or, if appropriate, a post-effective amendment to the registration statement that includes this prospectus.

We have agreed with the selling stockholder to keep the registration statement of which this prospectus constitutes a part effective until the earlier of (1) the date all of the shares covered by this prospectus have been sold and (2) the date on which all of the shares covered by this prospectus may be sold without restriction or limitation.

## **LEGAL MATTERS**

Wildman, Harrold, Allen & Dixon LLP, Chicago, Illinois is giving an opinion of the validity of the issuance of the securities offered in this prospectus.

## **EXPERTS**

The balance sheets of Nanophase Technologies Corporation as of December 31, 2008 and 2007, and the related statements of operations, stockholders' equity, and cash flows for each of the two years in the period ended December 31, 2008 appearing in Nanophase Technologies Corporation's Annual Report, as amended (Form 10-K/A) for the year ended December 31, 2008, have been audited by McGladrey & Pullen, LLP, an independent registered public accounting firm, as set forth in their report thereon included therein and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

**Table of Contents****PART II.****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution**

SEC Registration Fee	\$ 44.00
Accounting Fees and Expense	\$ 5,000
Legal Fees and Expenses	\$ 3,500
Miscellaneous	\$ 0.00
<b>Total</b>	<b>\$ 8,544.00</b>

All fees and expenses other than the SEC registration fee are estimated. The expenses listed above will be paid by us.

**Item 15. Indemnification of Officers and Directors**

Under Section 145 of the General Corporation Law of the State of Delaware (the "DGCL"), a corporation may indemnify its directors, officers, employees and agents and its former directors, officers, employees and agents and those who serve, at the corporation's request, in such capacities with another enterprise, against expenses (including attorney's fees), as well as judgments, fines and settlements in nonderivative lawsuits, actually and reasonably incurred in connection with the defense of any action, suit or proceeding in which they or any of them were or are made parties or are threatened to be made parties by reason of their serving or having served in such capacity. The DGCL provides, however, that such person must have acted in good faith and in a manner he or she reasonably believed to be in (or not opposed to) the best interests of the corporation and, in the case of a criminal action, such person must have had no reasonable cause to believe his or her conduct was unlawful. In addition, the DGCL does not permit indemnification in an action or suit by or in the right of the corporation, where such person has been adjudged liable to the corporation, unless, and only to the extent that, a court determines that such person fairly and reasonably is entitled to indemnity for costs the court deems proper in light of liability adjudication. Indemnity is mandatory to the extent a claim, issue or matter has been successfully defended.

Our certificate of incorporation provides that to the fullest extent permitted by Delaware law, it shall indemnify and advance indemnification expenses to all of its directors and officers. In addition, the certificate of incorporation provides that to the fullest extent permitted by Delaware law, a director shall not be liable to Nanophase Technologies Corporation or its stockholders for breach of fiduciary duty as a director.

We have entered into indemnification agreements with each director providing for indemnification to the fullest extent permitted by Delaware law.

**Item 16. List of Exhibits**

## (a) Exhibits

Exhibit 2	Plan and Agreement of Merger dated as of November 25, 1997 by and between the Company and its Illinois predecessor, incorporated by reference to Exhibit 2 to the Company's Annual Report on Form 10-K for the year ended December 31, 1997 (the "1997 10-K").
Exhibit 3(I).1	Certificate of Incorporation of the Company, incorporated by reference to Exhibit 3.1 to the 1997 10-K.
Exhibit 3(I).2	First Amendment to the Certificate of Incorporation of Nanophase Technologies Corporation dated July 27, 2006, incorporated by reference to Exhibit 99.3 to the Company's Current Report on Form 8-K filed July 27, 2006.
Exhibit 3(II).1	Bylaws of the Company, incorporated by reference to Exhibit 3.2 to the 1997 10-K.





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Exhibit 4.1	Specimen stock certificate representing common stock, incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1 (File No. 333-36937) (the "IPO S-1").
Exhibit 4.2	Form of Warrants, incorporated by reference to Exhibit 4.2 to the IPO S-1.
Exhibit 4.3	Rights Agreement dated as of October 28, 1998 by and between the Company and LaSalle National Bank, incorporated by reference to Exhibit 1 to the Company's Registration Statement on Form 8-A, filed October 28, 1998.
Exhibit 4.4	Certificate of Designation of Series A Junior Participating Preferred Stock incorporated by reference to Exhibit 4.4 to the Company's Annual Report on Form 10-K for the year ended December 31, 1998 (the "1998 10-K").
Exhibit 4.5	Amendment to Rights Agreement dated August 1, 2001 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.5 to the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 2001.
Exhibit 4.6	2001 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-8 (File No. 333-74170).
Exhibit 4.7	Second Amendment to Rights Agreement dated May 24, 2002 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 4.3 to the Company's Registration Statement on Form S-3 (File No. 333-90326) filed June 12, 2003.
Exhibit 4.8	Third Amendment to Rights Agreement dated September 5, 2003 between the Company and LaSalle National Association, as Rights Agent, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed September 10, 2003.
Exhibit 4.9	Subscription Agreement dated September 8, 2003 between the Company and Grace Brothers, Ltd., incorporated by reference to Exhibit 99.2 to the Company's Current Report on Form 8-K filed September 10, 2003.
Exhibit 4.10	Stock Purchase Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.10 to the Company's Annual Report on Form 10-K filed March 30, 2004.
Exhibit 4.11	Registration Rights Agreement dated March 23, 2004 between the Company and Altana Chemie AG, incorporated by reference to Exhibit 4.11 to the Company's Annual Report on Form 10-K filed March 30, 2004.
Exhibit 4.12	2004 Nanophase Technologies Corporation 2004 Equity Compensation Plan, ( "2004 Equity Plan" ) incorporated by reference to Exhibit 4 to the Company's Registration Statement on Form S-8 (File No. 333-119466).
Exhibit 4.13	Form of Stock Option Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.13 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.14	Form of Restricted Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.14 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.15	Form of Performance Share Grant Agreement under the 2004 Equity Plan, incorporated by reference to Exhibit 4.15 to the Company's Annual Report on Form 10-K filed March 15, 2005.
Exhibit 4.16	2005 Nanophase Technologies Corporation Equity Compensation Plan, incorporated by reference to Exhibit 4 to the Company's Non-Employee Director Restricted Stock Plan, incorporated by reference to Exhibit A to the Company's Definitive Proxy Statement on Form DEF14A filed May 17, 2005.

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Exhibit 4.17	First Amendment to the Nanophase Technologies Corporation 2005 Non-Employee Director Restricted Stock Plan, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed January 9, 2006.
Exhibit 4.18	Fourth Amendment to Shareholders' Rights Agreement, dated as of October 24, 2008, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K filed November 3, 2008.
Exhibit 4.19	Amended and Restated Rights Agreement, dated as of January 30, 2009, by and between the Company and Mellon Investor Services LLC, incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K/A filed February 5, 2009.
Exhibit 4.20	Amended and Restated 2006 Stock Appreciation Rights Plan, adopted April 18, 2009, incorporated by reference to Exhibit 99.1 to the Company's Current Report on Form 8-K filed April 9, 2009.
Exhibit 5.1	Opinion of Wildman, Harrold, Allen & Dixon LLP
Exhibit 23.1	Consent of McGladrey & Pullen, LLP
Exhibit 23.2	Consent of Wildman, Harrold, Allen & Dixon LLP (included in Exhibit 5)
Exhibit 24	Power of Attorney (included on signature page)
(b) Financial Statement Schedule	

None

**Item 17. Undertakings**

The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement: (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933; (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the Calculation of Registration Fee table in the effective registration statement; (iii) To include any material information with respect to the distribution not previously disclosed in the registration statement or any material change to such information in the registration statement; provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is conformed in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the 1934 Act that are incorporated by reference in the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; and

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(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

The undersigned Registrant undertakes that: (1) for purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of the registration statement in reliance upon Rule 430A and contained in the form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of the registration statement as of the time it was declared effective; and (2) for the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the Registration Certificate of Incorporation, Bylaws, indemnification agreements or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by Registrant of expenses incurred or paid by a director, officer or controlling person of Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

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**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, Nanophase Technologies Corporation certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized in Romeoville, Illinois as of November 25, 2009.

**NANOPHASE TECHNOLOGIES CORPORATION**

By: /s/ Jess Jankowski  
 Jess Jankowski

President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears immediately below constitutes and appoints Jess Jankowski as his or her true and lawful attorney-in-fact and agent, with full power of substitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and any and all additional registration statements pursuant to Rule 462(b) under the Securities Act of 1933, as amended, in connection with or related to the offering contemplated by this Registration Statement and its amendments, if any, and to file the same with all exhibits thereto, and other documents in connection therewith, with the Commission, granting unto said attorney-in-fact and agent full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement and power of attorney have been signed by the following persons in the capacities indicated as of November 25, 2009.

<b>Signature</b>	<b>Title</b>
<p><u>          /s/ Jess Jankowski          </u></p> <p>          Jess Jankowski</p>	<p>President, Chief Executive Officer and Director</p>
<p><u>          /s/ Frank Cesario          </u></p> <p>          Frank Cesario</p>	<p>Chief Financial Officer (Principal Financial and Accounting Officer)</p>
<p><u>          /s/ Donald S. Perkins          </u></p> <p>          Donald S. Perkins</p>	<p>Chairman of the Board and Director</p>
<p><u>          /s/ George Vincent          </u></p> <p>          George Vincent</p>	<p>Vice-Chairman of the Board and Director</p>
<p><u>          /s/ James A. Henderson          </u></p> <p>          James A. Henderson</p>	<p>Director</p>
<p><u>          /s/ James A. McClung          </u></p> <p>          James A. McClung</p>	<p>Director</p>

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/s/ Jerry Pearlman

Director

Jerry Pearlman

/s/ Richard W. Siegel

Director

Richard W. Siegel

/s/ R. Janet Whitmore

Director

R. Janet Whitmore

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**EXHIBIT INDEX**

- 5.1 Opinion of Wildman, Harrold, Allen & Dixon LLP
- 23.1 Consent of McGladrey & Pullen, LLP
- 23.2 Consent of Wildman, Harrold, Allen & Dixon LLP (included in Exhibit 5.1)
- 24 Power of Attorney (included on signature page)